

Message

From: d'Almeida, Carolyn K. [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9EC4401AFA1846DD93D52A0DDA973581-CDALMEID]
Sent: 6/30/2016 10:08:52 PM
To: Davis, Eva [Davis.Eva@epa.gov]; Dan Pope [DPope@css-dynamac.com]; Brasaemle, Karla [KBrasaemle@TechLawInc.com]; ARohrbaugh@TechLawInc.com
CC: Butler, Thomas [Butler.Thomas@epa.gov]
Subject: FW: 2016-6-15 - Williams AFB - request LNAPL removal clarification -
Attachments: removed.txt; ST012 PHC Removal_29June2016.docx

AFs estimates of LNAPL left in the ground. Still need to know benzene content of LNAPL

From: JERRARD, CATHERINE V CIV USAF HAF AFCEC/CIBW [mailto:catherine.jerrard@us.af.mil]
Sent: Thursday, June 30, 2016 2:41 PM
To: Wayne Miller <Miller.Wayne@azdeq.gov>
Cc: d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>; Davis, Eva <Davis.Eva@epa.gov>; (Geoffrey.Watkin@cn-bus.com) <Geoffrey.Watkin@cn-bus.com>; Pearson, Stuart C. (stuart.pearson@amecfw.com) <stuart.pearson@amecfw.com>; Smallbeck, Donald R. (donald.smallbeck@amecfw.com) <donald.smallbeck@amecfw.com>; steve@uxopro.com
Subject: FW: 2016-6-15 - Williams AFB - request LNAPL removal clarification -

Wayne-

Sorry for the delay in responding to your question.

Approximately 1,170,201 gallons of petroleum hydrocarbons have been removed from the site (see attached Table 1). This value was updated from the recent AF letter of June 7, 2016 based on SVE removal rates and use of a consistent conversion factor.

The release estimate cited (2008) is not the most recent mass estimate for ST012. The AF performed a PDI study as part of SEE construction and provided an updated mass estimate in the Final ST012 RD/RAWP Appendix B that included all historical data as well as the recent (2013-14) PDI data. That RD/RAWP provided a total estimate and estimates for LNAPL mass inside and outside the thermal treatment area. Additionally, a post-SEE mass estimate has been prepared and is included in the Draft Final RD/RAWP Addendum 2.

Please find below an excerpt from the Draft Final ST012 RD/RAWP Addendum #2, Appendix A, 2015 Model Update Calculations (Conclusion). The volumes provided are the estimated range of pre-SEE residual LNAPL and do not include contaminant removal by SVE after 2011.

"Using the literature values that BEM used in previous site modeling during the TEE pilot test and the revised interpretations of LNAPL extent, the amount of LNAPL in the thermal treatment zones is estimated to be between 590,000 and 790,000 (base interpretation) or 800,000 and 1,070,000 gallons (conservative LNAPL interpretation), leaving between 120,000 and 230,000 (base interpretation) or 240,000 and 470,000 gallons (conservative LNAPL interpretation) in the area outside the thermal treatment zones.

Using the concentrations of TPH in the soil and the equation developed by Hawthorne and Kirkman, the amount of NAPL in the thermal treatment zone is estimated to be between 350,000 and 470,000 (base interpretation) or 480,000 and 640,000 gallons (conservative LNAPL interpretation), leaving between 90,000 and 190,000 (base interpretation) 170,000 and 330,000 gallons (conservative LNAPL interpretation) in the area outside the treatment zone."

Subtracting the volume of petroleum hydrocarbon contaminants removed by SEE (approximately 403,000 gallons) provides an estimate of total remaining LNAPL in the saturated zone (see Table 2). These values are comparable to the

post-SEE residual LNAPL estimates provided in Addendum #2 (also provided in Table 2). Based on the volume removed by SEE within the thermal treatment zones, the lower range calculation based (Hawthorne and Kirkham) estimates from Addendum 2 Appendix A appear to be the most accurate post-SEE estimates for ST012.

Please let me know if you have additional questions.

Thanks.

Cathy

//SIGNED//

CATHY JERRARD, P.E., PMP

AFCEC/CIBW

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-----Original Message-----

From: Wayne Miller [<mailto:Miller.Wayne@azdeq.gov>]

Sent: Wednesday, June 15, 2016 8:28 PM

To: JERRARD, CATHERINE V CIV USAF HAF AFCEC/CIBW <catherine.jerrard@us.af.mil>

Cc: steve <steve@uxopro.com>

Subject: 2016-6-15 - Williams AFB - request LNAPL removal clarification -

Can you please clarify the JP-4/AVGAS quantity (gallons) removed via remedial actions? Was requested to find simple quantity answer.

So...1,066,271 gallons remediated of 2,200,000 gallons released?

The most recent estimate of LNAPL volume in the saturated zone of 2,200,000 gallons was established in 2008 prior to the TEE Pilot Test (BEM, 2011). [From ST012 RODA; dated Sept 2013; Section 3.2.3 LNAPL at ST012; page 3-5]

Since 1990 ...approximately 671,000 gallons of fuel have been removed from the site... [From ST012 RODA; dated Sept 2013; Section 3.2.4 Contaminant Removal; page 3-6]

Presume the 2,648,316 lbs converts to 395,271 gallons. [5/18/2016 BCT call; Site ST012 SEE System Status

Summary (through 29 April); page 4 - Total Vapor and Liquid Mass Removal (based on PID readings)]

Thanks.

Wayne Miller

Arizona Department of Environmental Quality,

Waste Programs Division,

Remedial Projects Section,

Federal Projects Unit

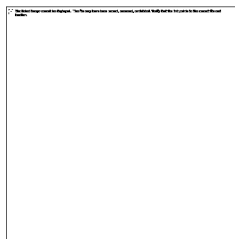
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